

PERIOPERATIVE MANAGEMENT OF GLP-1 RECEPTOR AGONISTS

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ABBREVIATIONS

AGA	American Gastroenterological Association
ASA	American Society of Anesthesiologists
BMI	body mass index
EGD	esophagogastroduodenoscopy
GI	gastrointestinal
GIP	glucose-dependent insulintropic polypeptide
GLP-1	glucagon-like peptide-1
GLP-1RA	GLP-1 receptor agonist
POCUS	point-of-care ultrasound
RGC	residual gastric content
RSI	rapid-sequence induction
SPAQI	Society for Perioperative Assessment and Quality Improvement
T2DM	type 2 diabetes mellitus

LEARNING OBJECTIVES

- Describe the pharmacology and perioperative relevance of GLP-1 receptor agonists and dual GLP-1/GIP receptor agonists.
- Explain how GLP-1-based therapy may alter gastric emptying and why standard fasting does not always predict gastric contents.
- Appraise the evidence linking GLP-1-based therapy with residual gastric contents, regurgitation and pulmonary aspiration.
- Compare major professional recommendations and identify where guidance remains inconsistent.
- Perform a structured preoperative risk assessment and use gastric ultrasound appropriately when expertise is available.
- Formulate an individualized plan for elective, urgent and emergency procedures, including glucose monitoring and postoperative resumption.

INTRODUCTION

Glucagon-like peptide-1 receptor agonists are now widely used for type 2 diabetes mellitus and obesity, while dual glucose-dependent insulinotropic polypeptide/GLP-1 receptor agonists have expanded incretin-based therapy [1,2]. These medicines enhance glucose-dependent insulin secretion, suppress inappropriate glucagon release, reduce appetite and can slow gastric emptying [1,2]. Their metabolic and weight-related benefits mean that anaesthetists increasingly encounter them before surgery, endoscopy and procedures requiring sedation [1,2].

The perioperative concern is not the drug name alone. Delayed gastric emptying may leave solid food or a larger-than-expected fluid volume in the stomach despite compliance with conventional fasting instructions [2]. Loss of protective airway reflexes during general anaesthesia or deep sedation can then permit regurgitation and pulmonary aspiration [3,4]. This risk is biologically plausible and supported by case reports and studies demonstrating residual gastric contents, but reported aspiration events are uncommon and current comparative evidence has not established a clear increase in clinically detected events [5,6].

Universal withholding also has disadvantages [7]. A single omitted weekly dose may not remove the gastric effect of a long-acting agent [2], while unnecessary interruption can worsen glycaemic control, disrupt weight-management treatment, create cost and access problems, and lead to cancellations that may themselves cause harm [7]. Guidance therefore evolved rapidly from the precautionary 2023 American Society of Anesthesiologists recommendation to withhold daily agents on the day of surgery and weekly agents for one week [8], towards later risk-based strategies that continue treatment for many patients while modifying diet, fasting, ultrasound assessment or airway management when risk is higher [7].

This booklet provides a practical, evidence-based approach to perioperative GLP-1-based therapy. It distinguishes residual gastric content from proven aspiration, compares the major professional recommendations, and integrates medication history, treatment phase, gastrointestinal symptoms, comorbidity, procedural urgency, gastric ultrasound and glucose management. Because the evidence remains predominantly observational [5,6], the aim is not to impose one universal rule, but to support explicit, documented and multidisciplinary decision-making [7].

CLINICAL CASE

A 58-year-old woman with obesity and type 2 diabetes presents for elective laparoscopic cholecystectomy. She received weekly semaglutide the previous day, has fasted for 10 hours and reports no nausea, vomiting, dyspepsia, bloating or abdominal pain. Should the procedure proceed normally, be postponed, use gastric ultrasound, or proceed with aspiration precautions?

GLP-1-BASED THERAPY: PHARMACOLOGY AND CLINICAL USE

The incretin system

Endogenous GLP-1 is released predominantly from intestinal L cells after nutrient exposure [1]. It potentiates insulin secretion when glucose is elevated and suppresses glucagon, thereby reducing postprandial glycaemia with a low intrinsic risk of hypoglycemia when used without insulin or an insulin secretagogue [1]. GLP-1 receptors in the central nervous system contribute to satiety and reduced energy intake, while gastrointestinal effects include altered motility and slower gastric emptying [1,2].

Native GLP-1 is rapidly degraded by dipeptidyl peptidase-4 [1]. Therapeutic agonists are engineered for greater resistance to degradation and longer exposure, which permits dosing from twice daily to once weekly [1,2]. Tirzepatide is not a pure GLP-1 receptor agonist; it activates both GIP and GLP-1 receptors, but it remains peri-procedurally relevant because gastrointestinal adverse effects and delayed gastric emptying may occur [2].

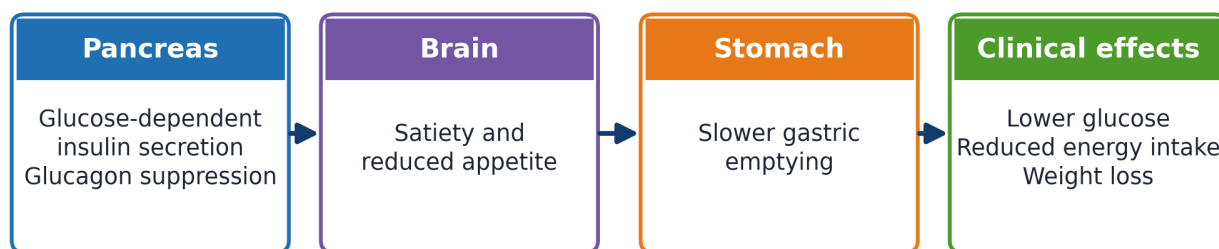


Diagram 1. Principal actions of GLP-1-based therapy. Original schematic informed by pharmacological reviews [1,2].

Common preparations and perioperative relevance

Short-acting agents, such as twice-daily exenatide and once-daily lixisenatide, exert a prominent postprandial gastric effect [1,2]. Long-acting preparations include liraglutide, dulaglutide, once-weekly semaglutide, extended-release exenatide and tirzepatide [1,2]. Semaglutide is also available as a daily oral formulation [2]. The dosing interval is clinically important for medication reconciliation, but it is not a reliable measure of how long gastric physiology remains altered after a dose is withheld [2].

Gastrointestinal symptoms are common during treatment initiation and dose escalation [2]. Nausea, vomiting, early satiety, abdominal discomfort, dyspepsia, diarrhoea and constipation can reflect drug exposure, but they are neither necessary nor sufficient to diagnose retained gastric contents [5]. Symptoms may be most prominent when treatment is commenced or the dose is increased, and the multi-society guidance identifies the escalation phase, higher dose, weekly formulation, active gastrointestinal symptoms and other disorders that delay gastric emptying as features that increase concern [7].

Table 1. Common GLP-1-based therapies and perioperative characteristics [1,2,5,7].

Agent	Class / route	Typical frequency	Perioperative relevance
Exenatide	GLP-1RA; subcutaneous	Twice daily or weekly extended-release	Short- and long-acting formulations exist; confirm the exact product.
Lixisenatide	GLP-1RA; subcutaneous	Daily	Short-acting; a prominent postprandial gastric effect may occur.
Liraglutide	GLP-1RA; subcutaneous	Daily	Daily preparation; gastrointestinal effects are especially relevant during initiation or dose escalation.
Dulaglutide	GLP-1RA; subcutaneous	Weekly	Weekly preparation; do not infer gastric status from the dosing interval alone.
Semaglutide	GLP-1RA; subcutaneous or oral	Weekly injection or daily oral	Daily oral or weekly subcutaneous preparation; much of the current perioperative evidence concerns semaglutide.
Tirzepatide	Dual GIP/GLP- 1 agonist; subcutaneous	Weekly	Current peri-procedural guidance applies the same risk-assessment principles as for GLP-1RAs.

Gastric effects, treatment duration and tachyphylaxis

The gastric effect is heterogeneous. In a controlled study of adults with obesity, once-weekly semaglutide delayed paracetamol absorption during the first postprandial hour, but overall five-hour gastric emptying was not significantly different from placebo [9]. Oral semaglutide also delayed early postprandial gastric emptying in adults with type 2 diabetes [10]. In women with obesity and polycystic ovary syndrome, scintigraphy demonstrated delayed solid gastric emptying after semaglutide exposure [11]. These findings cannot be converted into a single withholding interval because the studies used different populations, meals, methods and treatment durations [2,12].

Repeated GLP-1 exposure may produce tachyphylaxis to part of the gastric-emptying effect, particularly with long-acting agents, but this adaptation is incomplete and varies among individuals [1,2]. A patient established on a stable maintenance dose may therefore have a different risk profile from a patient who has recently commenced treatment or increased the dose [2,7]. The clinical assessment should record the treatment phase, not merely the last injection date [7].

The long pharmacological exposure of weekly preparations explains why a simple 'last dose' rule is imprecise [1,2,12]. Drug concentrations decline gradually, and gastric effects may persist beyond the nominal dosing interval [2,13]. Conversely, a patient may continue to have delayed emptying because of diabetes or another motility disorder even after the medicine has been withheld [2]. These considerations support clinical risk assessment rather than assuming that omission of a single dose has converted a high-risk patient into a low-risk patient [7,13].

South African availability and regulatory context

As of August 2026, key SAHPRA-registered incretin-based products that South African anaesthetists may encounter include semaglutide as Ozempic (weekly injection for type 2 diabetes), Wegovy (weekly injection for chronic weight management) and Rybelsus (daily oral semaglutide for type 2 diabetes); liraglutide as Saxenda (weight management) and Victoza (type 2 diabetes); dulaglutide as Trulicity (weekly for type 2 diabetes); and tirzepatide as Mounjaro (weekly dual GIP/GLP-1 agonist registered for type 2 diabetes and weight management) [35-41]. Registration does not guarantee stock at every facility, so the exact brand, formulation and indication should be verified rather than inferred from international availability.

The South African market is changing rapidly. In July 2026, Reuters reported that SAHPRA was reviewing 12 applications for generic semaglutide and that Sun Pharma had received approval to manufacture and sell a generic semaglutide product in South Africa [42]. Novo Nordisk also announced Extensor, a lower-cost authorised semaglutide product to be supplied with Acino [43]. These developments concern regulated products and should not be confused with unregistered compounded or falsified copies.

SAHPRA has warned of falsified, compounded and substandard GLP-1/GIP products offered through websites, social media and other informal channels [30]. Products obtained outside the regulated supply chain may contain no active ingredient, an incorrect or excessive amount, another active ingredient, harmful excipients, or may be non-sterile or contaminated [31]. For perioperative assessment, a patient report of a “weight-loss injection” or “semaglutide” therefore may not reliably identify the substance, concentration or dose actually received [30,31].

In May 2026, SAHPRA and the South African Pharmacy Council reported critical regulatory non-compliance during an inspection of iDexis (Pty) Ltd trading as Sentra Pharmacy in Pretoria and seized semaglutide, tirzepatide and combination injectable products [32]. On 22 June 2026, the Gauteng High Court granted an interim interdict restraining iDexis from manufacturing, supplying and marketing semaglutide pending regulatory outcomes [33]. SAHPRA, the South African Pharmacy Council and the Health Professions Council of South Africa subsequently warned against continued use, prescription or dispensing of recalled iDEXIS semaglutide, tirzepatide and combination products after a Class I, Type A recall [34]. These regulatory and legal developments reinforce the need to establish the exact source and identity of the product before anaesthesia [30-34].

GASTRIC PHYSIOLOGY AND THE MECHANISM OF PERIOPERATIVE RISK

Normal gastric emptying

The stomach accommodates an ingested meal, grinds solids through coordinated antral contractions and regulates passage through the pylorus [2-4]. Clear liquids usually leave the stomach more rapidly than solids, while fat, fiber, meal volume, pain, stress, hyperglycaemia and several medicines can slow emptying [2-4]. Standard fasting intervals are population-based safeguards for otherwise healthy elective patients; they do not prove that an individual stomach is empty [3,4].

Diabetes itself may alter gastric motor function through autonomic neuropathy and hyperglycaemia [2]. Parkinson's disease, previous gastric surgery, bowel dysmotility and opioid or anticholinergic exposure may further alter transit [2,5]. Obesity is common in the populations receiving these medicines, but obesity alone does not establish delayed gastric emptying or a full

stomach [5,7]. These factors matter because many published GLP-1 studies include patients with independent reasons for abnormal gastric emptying [5].

How GLP-1-based therapy may increase residual gastric contents

GLP-1 receptor activation can reduce antral contractility, alter antro-pyloro-duodenal coordination and increase pyloric resistance [1,2]. The consequence may be retained particulate food, thick fluid or a larger fluid volume at the time of anaesthesia [2,12]. If solids remain after standard fasting, a short additional delay on the day of surgery does not reliably establish complete gastric emptying [3,4].

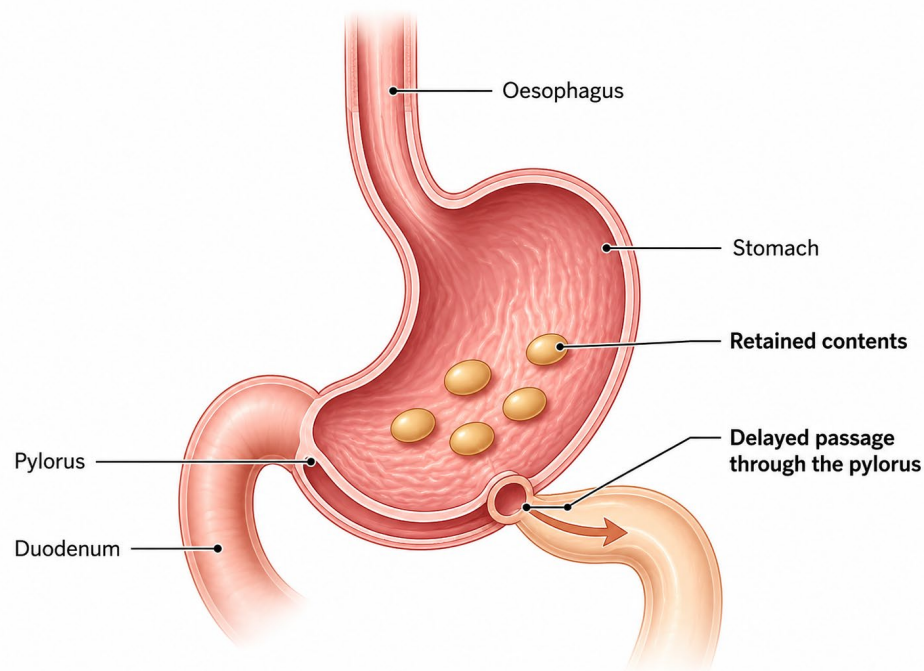
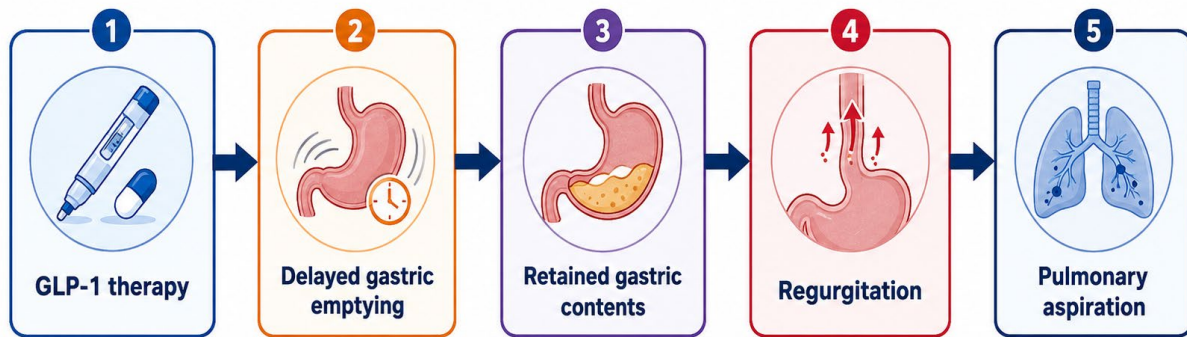


Figure 1. Delayed gastric emptying: conceptual anatomy. Original illustration informed by gastric physiology literature [1,2].

Gastrointestinal symptoms may signal impaired transit, but absence of symptoms does not exclude it [5]. The Australian and New Zealand recommendations specifically state that the absence of gastrointestinal symptoms cannot currently be used to rule out delayed gastric emptying [13]. Conversely, nausea or constipation may occur without a clinically significant volume of gastric contents [5]. Symptoms should therefore modify risk assessment rather than serve as a stand-alone diagnostic test [7].



Biological plausibility does not establish that every exposed patient has increased clinical aspiration risk.

Diagram 2. Potential pathway from GLP-1-based therapy to pulmonary aspiration.
Original schematic [2,5,6].

From retained contents to aspiration

Pulmonary aspiration requires more than delayed emptying [3,4]. Gastric contents must reach the pharynx and pass the larynx while protective reflexes are impaired [3,4]. Deep sedation or general anaesthesia, particularly with an unprotected airway, creates a period of vulnerability [3,4]. When aspiration concern is substantial, tracheal intubation and a rapid-sequence technique may be considered, but the airway plan must also account for difficult-airway and physiological risks [7].

Residual gastric content is therefore a surrogate marker, not the clinical endpoint itself [5,6]. Studies that show more retained food cannot be interpreted automatically as proof of more aspiration pneumonia [5,6]. This distinction is central to the evidence appraisal and explains why professional recommendations remain different [5,6].

EVIDENCE FOR RETAINED GASTRIC CONTENTS, REGURGITATION AND ASPIRATION

Case reports: an important signal with major limitations

The initial safety concern arose largely from case reports [5]. Klein and Hobai described pulmonary aspiration during upper gastrointestinal endoscopy in a patient using weekly semaglutide despite prolonged fasting [14]. Gulak and Murphy reported regurgitation under anaesthesia in a fasted patient who had taken semaglutide two days earlier [15]. Avraham and colleagues subsequently reported two perioperative aspiration cases in patients receiving semaglutide for weight loss [16].

These reports demonstrate that a conventionally fasted patient receiving a long-acting agent can still have clinically important gastric contents [14-16]. They do not establish incidence, relative risk or a safe cessation interval [14-16]. Case reports preferentially publish unusual events, often include obesity, diabetes, reflux or other confounders, and lack untreated comparison groups [5].

Their appropriate role is to generate a safety signal and justify prospective research, not to support automatic cancellation of every procedure [5].

Gastric ultrasound studies

Sherwin and colleagues studied volunteers recently started on semaglutide and found residual solids more often than in controls after an overnight fast, particularly when the right-lateral position was used [17]. The small sample and volunteer design limit generalisability, but the study showed that bedside ultrasound can detect a difference not predicted by reported fasting alone [17].

In a cross-sectional study of 124 fasted adults presenting for elective procedures, increased residual gastric content was identified in 56% of GLP-1RA users and 19% of non-users [18]. After adjustment, GLP-1RA use remained associated with increased residual content [18]. Nersessian and colleagues prospectively assessed patients who had used weekly semaglutide within ten days of surgery and found increased residual gastric content in 40% of exposed patients compared with 3% of controls [19]. No aspiration events occurred in that study [19].

These studies support an association between GLP-1 exposure and a higher probability of sonographically detected solids or excess fluid [17-19]. They cannot determine how frequently those findings would have resulted in regurgitation or aspiration, and they do not establish a cessation interval that reliably normalises gastric contents [17-19].

Endoscopy and retained food

Retrospective endoscopy studies generally report more visible retained food among GLP-1RA users [5]. Silveira and colleagues found a higher prevalence of residual gastric content during elective upper endoscopy among patients using semaglutide, with gastrointestinal symptoms also associated with retention [20]. Kobori and colleagues reported more gastric residue during oesophagogastroduodenoscopy in patients treated with GLP-1RAs than in matched controls [21].

A historical cohort study by Wu and colleagues similarly associated GLP-1RA therapy with visible gastric contents in fasting patients undergoing endoscopy with anaesthesia care [22]. Nadeem and colleagues analysed more than 35,000 upper endoscopies and found that GLP-1RA exposure was associated with more retained gastric contents, aborted examinations and repeat procedures in both diabetic and non-diabetic groups [23]. Nasser and colleagues found food retention during upper endoscopy performed alone, but not when upper endoscopy was combined with same-day colonoscopy; the liquid-diet and bowel-preparation context was a plausible, but unproven, explanation [24].

Endoscopic food retention is clinically relevant because it may interrupt or limit mucosal examination and lead to rescheduling [20-24]. It remains a surrogate outcome. Upper endoscopy cohorts may also be enriched for gastrointestinal disease, and the procedural population differs from patients undergoing non-gastrointestinal surgery [5].

Large comparative studies and evidence synthesis

Alkabbani and colleagues compared more than 43,000 adults with type 2 diabetes who underwent upper gastrointestinal endoscopy after treatment with a GLP-1RA or an SGLT2 inhibitor [25]. GLP-1RA use was not associated with an increased coded risk of pulmonary aspiration, although procedures were discontinued more often [25]. The study provides important reassurance, but outcome misclassification remains possible when administrative codes are used [25].

A scoping review found that most available studies reported more residual gastric contents, while aspiration and regurgitation data were sparse and heavily confounded [5]. In the primary meta-analysis of nine studies involving 185,414 patients and 471 aspiration events, GLP-1RA exposure was not associated with perioperative pulmonary aspiration [6]. The same review found substantially more residual gastric contents among exposed patients, but the certainty of evidence was low or very low because most studies were retrospective and definitions varied [6].

The most defensible conclusion is therefore two-part: GLP-1-based therapy is associated with an increased likelihood of residual gastric contents in several study designs [5,6], but current evidence has not shown a clear increase in clinically detected pulmonary aspiration [6,25]. This uncertainty supports proportionate risk mitigation rather than either complacency or universal cancellation [6,7].

Table 2. Summary of evidence on retained gastric contents and aspiration [5,6].

Evidence	Main finding	Strength	Key limitation
Case reports [14-16]	Regurgitation or aspiration occurred despite fasting.	Direct clinical events.	No denominator; publication bias and confounding.
Gastric ultrasound [17-19]	More solids or increased residual content among exposed patients.	Bedside assessment before anaesthesia.	Surrogate outcome; small or selected cohorts.
Endoscopy cohorts [20-24]	More retained food and incomplete examinations.	Large real-world samples.	Procedure-specific selection and retrospective design.
Large comparative cohort [25]	No increased coded aspiration; more discontinued procedures.	Large active-comparator design.	Possible outcome misclassification.
Reviews/meta-analysis [5,6]	RGC increased; aspiration association not demonstrated.	Synthesises multiple settings.	Low or very-low certainty evidence.

KEY LIMITATIONS OF THE EVIDENCE

Most studies are observational; aspiration is rare; definitions of residual gastric content vary; symptoms and fasting are inconsistently recorded; and diabetes, obesity, reflux, gastroparesis, opioid exposure and procedural factors may confound associations [5,6].

Clinical interpretation of the evidence

The evidence should be interpreted according to the question being asked. If the question is whether GLP-1-based therapy can be associated with retained gastric content despite fasting, the answer is yes [5,6]. If the question is whether every exposed patient has a clinically important full stomach, the answer is no [5,6]. If the question is whether exposure causes a measurable increase in perioperative aspiration, the current evidence is inconclusive and does not show a statistically significant overall association [6,25].

This distinction supports selective mitigation [7]. A higher prevalence of a surrogate finding can justify better history-taking, diet modification or selective ultrasound without proving that all patients require tracheal intubation [5-7]. A negative observational study of aspiration should not be interpreted as proof that aspiration cannot occur [5,6,25]. Aspiration is rare, coded outcomes may be insensitive, and case reports demonstrate biological possibility [14-16,25].

EVOLUTION OF PROFESSIONAL GUIDANCE

Professional guidance on the peri-procedural management of GLP-1-based therapy has changed rapidly as evidence and clinical experience have developed. Early recommendations favoured precautionary withholding because of concern about delayed gastric emptying and aspiration [8]. Later multidisciplinary statements increasingly support continuation for many patients, combined with individualised assessment, dietary modification, gastric ultrasound or airway-risk mitigation when indicated [7,13,26-28]. However, recommendations remain inconsistent regarding fasting duration, liquid-diet preparation, the role of symptoms and when elective procedures should be postponed [7,13,26-28].

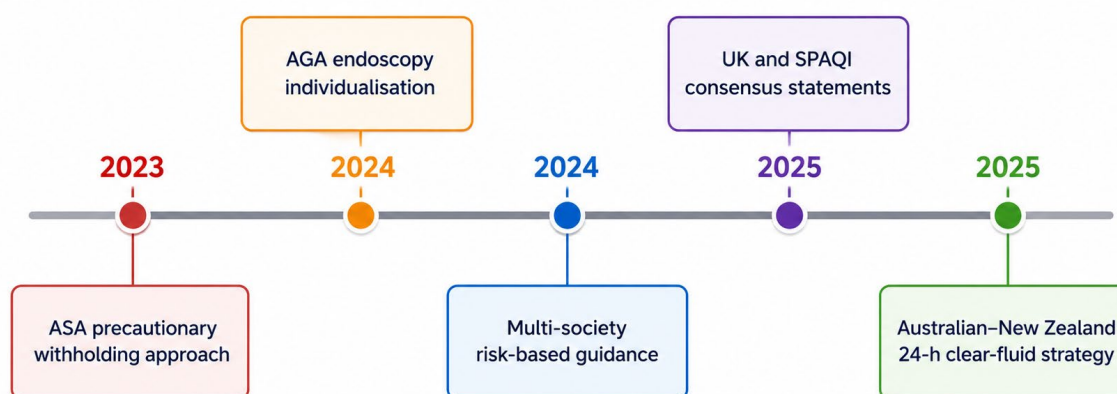


Diagram 3. Evolution of peri-procedural guidance from precautionary withholding to risk-based management [7,8,13,26-28].

ASA 2023: a precautionary withholding strategy

The ASA 2023 consensus-based guidance was issued when evidence consisted mainly of case reports [8]. For elective procedures, it suggested withholding daily GLP-1RAs on the day of the procedure and weekly agents for one week, irrespective of indication, dose or procedure type [8]. If a medicine used for diabetes was held beyond the normal dosing schedule, endocrinology input was suggested to reduce hyperglycaemia [8].

On the day of surgery, the ASA advised considering delay when severe nausea, vomiting, retching, abdominal bloating or pain was present [8]. If the patient had no symptoms but the medicine had not been withheld, the options were full-stomach precautions or gastric ultrasound when available and interpretable [8]. The document was explicitly consensus-based and acknowledged limited evidence [8].

Gastroenterology and multi-society individualization

The AGA rapid update opposed automatic discontinuation before all endoscopic procedures [26]. It advised proceeding in asymptomatic patients who had followed standard fasting, while

considering a liquid diet on the preceding day as an alternative to medication cessation [26]. The AGA position reflected concern that blanket cancellation could delay necessary endoscopy without proven reduction in aspiration [26].

The 2024 multi-society guidance broadened the risk-based approach across surgery and endoscopy [7]. It identified escalation phase, higher dose, weekly formulations, gastrointestinal symptoms and other medical conditions that delay gastric emptying as factors increasing concern [7]. Lower-risk patients could continue therapy, whereas higher-risk patients might require a 24-hour liquid diet, gastric ultrasound, a modified anaesthetic plan or, when risk was expected to improve, postponement [7]. The guidance also emphasised shared decision-making and the potential harms of withholding therapy [7].

UK, SPAQI and Australian–New Zealand statements

The 2025 UK multidisciplinary statement recommends continuing GLP-1RAs and dual GIP/GLP-1 agonists throughout the perioperative period [27]. It promotes individual risk assessment, shared decision-making, gastric ultrasound when appropriate, and aspiration mitigation that may include head-up induction, tracheal intubation, a modified rapid-sequence technique and awake extubation [27]. It also cautions that rapid-sequence intubation can itself cause harm, particularly when airway difficulty is possible [27].

The 2025 SPAQI consensus statement also recommends continuing GLP-1RAs in patients without significant gastrointestinal symptoms [28]. It proposes a 24-hour fast from solid food, with different minimum intervals for clear liquids according to carbohydrate content, and advises deferring elective procedures when severe nausea, vomiting or inability to tolerate oral intake suggests clinically important gastric dysfunction [28]. SPAQI provides detailed recommendations for postoperative resumption once the usual diet is tolerated [28].

Guidance	Medication	Diet / fasting	Higher-risk or uncertain patient
ASA 2023 [8]	Hold daily on day; weekly for 1 week.	Standard fasting; evidence insufficient for longer fasting.	Delay for severe GI symptoms; if not held, ultrasound or full-stomach precautions.
AGA 2024 [26]	No blanket cessation before endoscopy.	Standard fasting if asymptomatic; consider liquid diet the day before.	Individualise; consider airway-protective management when concern remains and delay is undesirable.
Multi-society 2024 [7]	Continue in lower-risk patients.	24-h liquid diet for selected higher-risk patients.	Assess escalation, dose, symptoms and comorbidity; ultrasound, modify anaesthesia or delay.
UK 2025 [27]	Continue perioperatively.	Conventional fasting with risk assessment.	Use ultrasound and aspiration-mitigation strategies as indicated.
SPAQI 2025 [28]	Continue if no significant GI symptoms.	24 h without solids; clear-liquid intervals depend on carbohydrate content.	Defer for severe symptoms; use individualised aspiration precautions.
Australia/NZ 2025 [13]	Continue peri-procedurally.	24-h clear-fluid diet for all, then standard fasting.	Ultrasound or minimally sedated gastroscopy if diet not completed; IV erythromycin may be considered, but GLP-1-specific efficacy is unproven.

The 2025 Australian and New Zealand recommendations advise continuation and a 24-hour clear-fluid diet for all patients receiving GLP-1RA or dual GLP-1/GIP therapy, followed by standard fasting [13]. If that preparation has not been completed, the document recommends gastric ultrasound or minimally sedated gastroscopy where feasible and includes intravenous erythromycin as a possible prokinetic strategy [13]. However, the effectiveness of erythromycin specifically in GLP-1-treated peri-procedural patients has not been established [13]. The recommendations also state that neither absence of symptoms nor a particular cessation interval can currently guarantee normal gastric emptying [13].

Table 3. Comparison of professional guidance. Recommendations are not interchangeable and should be implemented according to local policy [7,8,13,26-28].

Interpreting disagreement

All statements require clinicians to identify GLP-1-based therapy and assess gastrointestinal symptoms or other causes of delayed gastric emptying [7,8,13,26-28]. Later statements place greater emphasis on individualisation, continuation for many patients and avoidance of unnecessary cancellation [7,13,26-28]. They disagree on routine continuation, whether all patients need a 24-hour diet, the value of symptoms and the appropriate fasting interval [7,8,13,26-28].

These differences reflect limited evidence rather than simple error [5,6]. A hospital should adopt a locally approved pathway that clinicians can implement consistently, while retaining flexibility for individual risk, procedural urgency and ultrasound availability [7,13,27,28]. Mixing parts of different statements without recognising their assumptions can produce contradictory instructions [7,13,27,28]

PREOPERATIVE ASSESSMENT AND RISK STRATIFICATION

Medication reconciliation

The preoperative interview should identify the exact medicine, route, indication, dose, dosing frequency, date and time of the last dose, duration of treatment, and whether the patient is in an escalation phase [7]. The question should be explicit and non-judgmental, including medicines prescribed for weight management [13]. In South Africa, when a product has been compounded, imported, purchased online or obtained outside a usual licensed pharmacy pathway, record the source, label or brand, concentration, administered dose and last administration; where feasible, inspect the pen, vial, packaging or a photograph because unregistered products may not contain the stated ingredient or strength [30,31].

The indication matters. Interruption in a patient with diabetes may produce hyperglycaemia, while interruption in a patient treated for obesity can disrupt appetite and weight-management treatment and may create cost or access problems [7]. Concurrent insulin or a sulfonylurea increases the need for a written glucose plan, whereas GLP-1RA monotherapy has a low intrinsic hypoglycaemia risk [1,28].

Symptoms and treatment phase

Ask specifically about nausea, vomiting, retching, early satiety, dyspepsia, reflux, abdominal pain, bloating, constipation and inability to tolerate oral intake [7]. Severe or progressive symptoms should prompt evaluation for another cause, including clinically important gastric dysmotility, obstruction, pancreatitis or biliary disease, rather than being attributed automatically to the medicine [2,28].

Recent initiation or dose escalation is a major practical concern because gastrointestinal adverse effects are more frequent during this phase [2,7]. The multi-society guidance suggests deferring elective procedures until escalation-related symptoms have resolved when risk is expected to decrease with time [7]. A stable maintenance dose with no symptoms is more reassuring, but it does not guarantee an empty stomach [13].

Patient and procedure factors

Known diabetic gastroparesis, Parkinson's disease, previous gastric surgery, bowel dysmotility, chronic opioid use and anticholinergic medicines increase concern for delayed gastric emptying [2,5,7]. Hyperglycaemia can itself slow gastric emptying and should be corrected when clinically significant [2]. Severe reflux does not necessarily indicate delayed emptying, but it may increase the consequence of regurgitation and should be incorporated into airway planning [27]. Obesity alone should not be treated as proof of a full stomach, although associated obstructive sleep apnoea, difficult-airway features and reduced respiratory reserve may increase the consequences of aspiration or airway intervention [27].

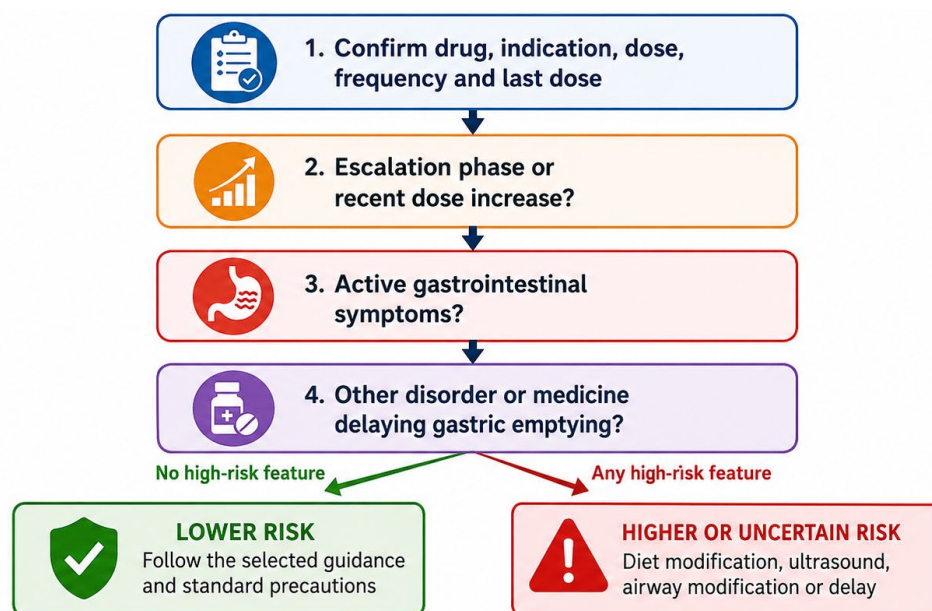


Diagram 4. Preoperative risk stratification. Original schematic synthesising current guidance [7,13,27,28].

Procedural factors include the depth of sedation, whether the airway is accessible, patient position, expected duration and whether the procedure itself involves the upper gastrointestinal tract [7,26,27]. A short procedure under minimal sedation with intact airway reflexes differs from deep sedation in a prone patient or a long laparoscopic procedure requiring general anaesthesia [27]. The consequence of postponement also matters and should be incorporated into shared decision-making [7].

Category	Risk factor	Why it matters	Possible response
Treatment	Escalation phase or recent dose increase	GI effects and delayed emptying may be greater.	Consider deferral if elective and risk is likely to improve.
Symptoms	Severe nausea, vomiting, bloating, pain or inability to tolerate intake	May indicate clinically important gastric dysfunction.	Evaluate cause; delay elective procedure when appropriate.
Comorbidity	Gastroparesis, Parkinson disease, dysmotility or prior gastric surgery	Independent cause of delayed emptying.	Higher-risk pathway; consider ultrasound or airway protection.
Co-medication	Opioids or anticholinergic drugs	May further impair motility.	Review necessity and integrate into risk assessment.
Procedure	Deep sedation, inaccessible airway, prone position or upper GI procedure	Greater consequence if regurgitation occurs.	Consider an airway-protective anaesthetic plan.

Category	Risk factor	Why it matters	Possible response
System	No ultrasound expertise and uncertain fasting/diet preparation	Objective assessment may be unavailable.	Use the locally approved conservative pathway; consider deferral only if risk cannot be mitigated.

Table 4. Factors associated with increased concern for delayed gastric emptying [2,5,7,13,27,28].

HIGH-RISK WARNING FEATURES

Dose escalation or recent dose increase; severe gastrointestinal symptoms; known gastroparesis or another motility disorder; concurrent medicines that delay emptying; failure to complete the locally required diet strategy; or a procedure in which regurgitation would be particularly difficult to manage. These features increase concern but do not, individually, prove that the stomach is full [7,13,27,28].

Shared decision-making and documentation

The assessment should culminate in an explicit decision rather than an undefined label such as 'GLP-1 patient' [7]. The anaesthetist, proceduralist and patient should understand whether therapy is being continued, which diet and fasting instructions apply, whether gastric ultrasound is planned, and how the airway will be managed if risk remains uncertain [7,27]. Where the drug is prescribed for diabetes, the prescribing clinician or diabetes team should be involved when interruption is prolonged or glucose control is difficult [28].

Documentation should record the guidance or local policy used, the treatment phase, symptoms, comorbid motility disorders, last dose, diet completion and the rationale for proceeding or postponing [7,27]. This is especially important because different current statements support different fasting strategies [7,13,27,28]. A clear note reduces contradictory instructions and allows the next clinician to understand that the decision was risk-based rather than arbitrary [7].

South African perioperative practice considerations

South African anaesthesia literature has reviewed anti-obesity medicines used locally and has highlighted the perioperative relevance of GLP-1-related delayed gastric emptying [29]. The South African literature reviewed for this booklet did not identify a dedicated national GLP-1 perioperative consensus statement current to August 2026. A pragmatic local approach is therefore to adopt one written departmental pathway based on a current consensus statement [7,13,27,28], then adapt it to local access to gastric POCUS, theatre resources, diabetes or endocrine support and emergency airway expertise. The pathway should also recognize SAHPRA warnings about unregistered, falsified and compounded GLP-1/GIP products [30-34].

In practice, the preoperative record should answer five questions: what exact product and source is being used; whether treatment is being initiated or escalated and when the last dose was taken; whether gastrointestinal symptoms or another motility disorder is present; whether the diet and fasting requirements of the adopted local pathway were completed; and what the airway or gastric-ultrasound plan will be if risk remains uncertain [7,13,27-29].

MANAGEMENT OF ELECTIVE PROCEDURES

Establish the local pathway before the day of surgery

Patients should receive instructions early enough to follow the institution's chosen policy [7,13]. A same-day discovery of weekly semaglutide use should not automatically trigger cancellation when the patient is otherwise at lower risk [7]. The team should verify whether local policy follows standard fasting, a selective 24-hour liquid diet, the SPAQI 24-hour solid fast, or the Australian and New Zealand 24-hour clear-fluid approach [7,13,28].

The prescribing clinician should be involved when withholding is likely to extend beyond the normal dosing schedule or when diabetes control is fragile [8,28]. Bridging is not automatically required. It can increase complexity and hypoglycemia risk and should be based on the patient's glucose pattern and other medicines rather than the aspiration question alone [8,28].

Lower-risk patient

A lower-risk profile includes a stable maintenance dose, absence of significant gastrointestinal symptoms, no known disorder of gastric emptying, completion of the required diet and fasting instructions, and a procedure with manageable airway access [7]. Under the multi-society and UK approaches, such patients can generally continue therapy and proceed [7,27]. SPAQI also supports continuation but couples it with extended fasting [28].

Proceeding does not mean that aspiration risk is zero [5,6]. Standard monitors, appropriate depth of anaesthesia, suction availability and a clear airway plan remain necessary [27]. Excessive sedation should be avoided when airway access is limited, particularly in patients with obesity or obstructive sleep apnoea [27].

Higher or uncertain risk

When risk is higher, the options are not limited to 'cancel' or 'ignore' [7]. A 24-hour liquid or clear-fluid strategy is used as a risk-mitigation measure and is recommended selectively by the multi-society guidance and routinely by the Australian and New Zealand statement [7,13]. Gastric ultrasound can provide bedside information when the result will change management [7,13]. The anaesthetic plan can be modified to secure the airway, use a head-up position or apply a rapid-sequence technique when the expected benefits outweigh the risks [27].

Postponement is reasonable when severe gastrointestinal symptoms are present, when the patient is in early dose escalation and the procedure is elective, or when substantial aspiration concern cannot be mitigated safely [7,8,28]. The reason and conditions for rebooking should be explicit [7]. Simply instructing the patient to omit one weekly dose may not resolve the problem because no validated cessation interval guarantees return to baseline gastric emptying [2,12,13].

Airway and anaesthetic modifications

A patient considered to have a full stomach may require tracheal intubation rather than deep sedation with an unprotected airway [27]. Head-up preoxygenation may be useful, and skilled assistance, functioning suction and a difficult-airway plan should be available [27]. Rapid-sequence induction may be appropriate, but it can increase the risk of hypoxaemia, haemodynamic instability and failed or traumatic intubation [27]. The choice should reflect airway difficulty, respiratory reserve, procedural position and operator experience [27].

Gastric decompression through an orogastric tube after intubation may remove liquid but cannot guarantee removal of solids and cannot prevent regurgitation that occurs during induction [27]. Prokinetic therapy is not a substitute for airway assessment [13]. The Australian and New Zealand recommendations include intravenous erythromycin as a possible option when retained contents are suspected, but GLP-1-specific peri-procedural effectiveness has not been established and contraindications, interactions and timing must be considered [13].

Proceed, modify or postpone

Proceeding without modification is reasonable when the patient meets the lower-risk criteria of the adopted local pathway and has completed the required preparation [7]. Proceeding with modification is appropriate when the procedure is important and aspiration risk can be reduced by ultrasound or an airway-protective anaesthetic plan [7,27]. Postponement is most defensible when the procedure is elective, severe symptoms or escalation-phase effects are likely to improve, and safe mitigation is not available [7,8,28].

The decision should consider the harm of delay [7]. Repeated cancellation may delay necessary care and undermine adherence, while aspiration can cause serious respiratory injury [7]. Shared decision-making does not transfer responsibility to the patient; it ensures that competing harms are explained and that the final plan is clinically justified [7,27].

GASTRIC POINT-OF-CARE ULTRASOUND

Role and technique

Gastric POCUS is a focused examination of the antrum that can classify the stomach as empty, containing clear fluid, or containing solid/thick material [3,4]. It is most useful when fasting or medication history is uncertain and the result will alter the decision to proceed, delay or secure the airway [7,13]. It does not measure aspiration itself and should be performed by a clinician with appropriate training [3,4].

A low-frequency curvilinear transducer is placed in the epigastrium in a sagittal or parasagittal orientation [3,4]. The gastric antrum is identified between the left lobe of the liver anteriorly and the pancreas and major vessels posteriorly [3,4]. Assessment in both supine and right-lateral decubitus positions improves sensitivity for small fluid volumes [3,4].

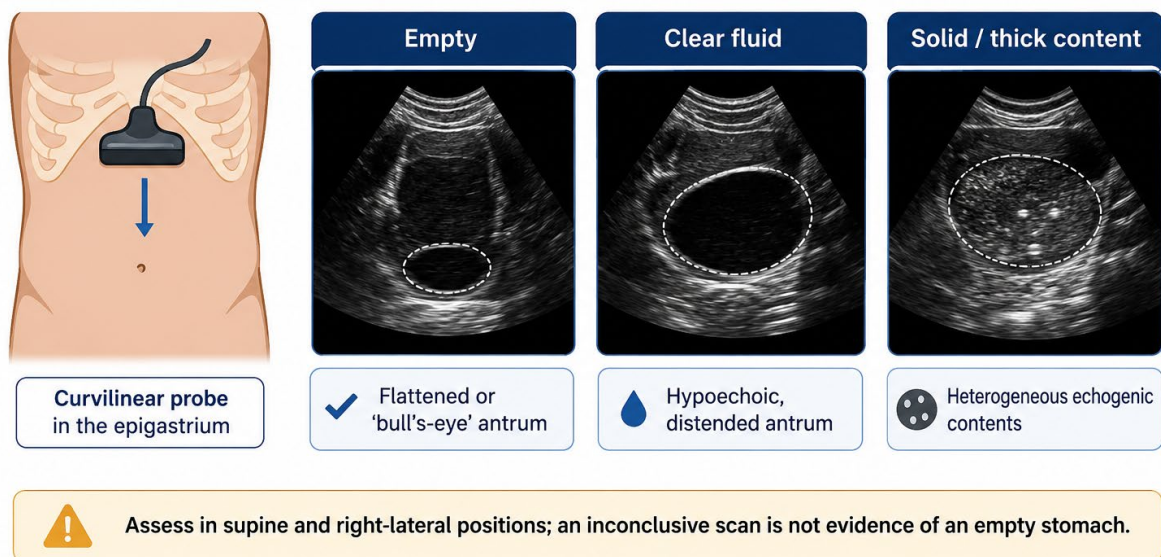


Figure 2. Gastric point-of-care ultrasound: probe position and qualitative appearances. Original schematic informed by established technique reviews [3,4].

Interpretation and limitations

An empty antrum has a flattened or 'bull's-eye' appearance [3,4]. Clear fluid produces a hypoechoic, distended antrum, while solids or thick fluid generate heterogeneous echogenic contents and are treated as high risk [3,4]. Mathematical models can estimate clear-fluid volume from antral cross-sectional area, but the estimate is less reliable in altered anatomy, extreme body habitus, pregnancy and when landmarks cannot be visualized [3,4].

An inconclusive scan is not evidence of an empty stomach [3,4]. Ultrasound availability should not delay emergency care, and a result must be interpreted with symptoms, diet, treatment phase and procedural consequences [7,13]. Institutions using gastric POCUS should define training, documentation and escalation standards [3,4].

How ultrasound changes management

A clearly empty antrum can support proceeding when the history is uncertain, while definite solids generally support full-stomach management or postponement when the procedure is elective [3,4,7,13]. Clear fluid requires integration of estimated volume, fasting history and clinical context [3,4]. Ultrasound is most valuable when each possible result has a predetermined action; scanning without a plan can add delay without improving safety [3,4].

Gastric POCUS should not be used as a universal screening test merely because a patient takes a GLP-1RA [7,27]. Routine scanning may be impractical and can generate equivocal findings [3,4]. Selective use in higher-risk or uncertain patients is consistent with the multi-society, UK and Australian–New Zealand approaches [7,13,27].

URGENT AND EMERGENCY PROCEDURES

Emergency or time-critical surgery should not be delayed solely because a GLP-1-based medicine was taken recently [7,8]. The assessment should establish the last dose, current gastrointestinal symptoms, fasting status, glucose, haemodynamic state and other causes of gastric stasis [7]. If gastric contents are unknown or risk is high, the patient should be managed using appropriate full-stomach precautions [7,8].

Gastric ultrasound can be used when immediately available and when it will not delay definitive care [3,4,7]. A finding of solids may support tracheal intubation and a rapid-sequence approach, but a technically limited scan should not create false reassurance [3,4,27]. In a patient requiring emergency endoscopy, surgery or source control, the objective is to reduce aspiration risk while proceeding, not to achieve an ideal elective preparation [7,8].

If regurgitation or aspiration occurs, immediate airway protection, oxygenation and escalation should follow the institution's emergency airway and aspiration protocol.

In a patient with a difficult airway, the safest approach may not be a conventional rapid-sequence induction [27]. Awake tracheal intubation, maintenance of spontaneous ventilation or another advanced airway strategy may offer a better balance of risks [27]. The GLP-1 history should therefore influence aspiration planning but should not override established difficult-airway principles [27].

Practical emergency sequence

Before induction, establish the product and last dose if this can be done without delaying care, document the last solid and liquid intake and current gastrointestinal symptoms, measure glucose in patients with diabetes, and identify known gastroparesis or another cause of gastric stasis [7,27-29]. Gastric POCUS is useful only when a trained operator is immediately available and the result will change management without delaying definitive treatment [3,4,7].

If gastric status is high risk or unknown and general anaesthesia is required, prepare functioning suction, optimise preoxygenation and positioning, and use an airway-protective strategy. Rapid-sequence induction and tracheal intubation may be appropriate, but a predicted difficult airway may favour awake tracheal intubation or another strategy that preserves spontaneous ventilation [27]. After suspected regurgitation or aspiration, follow the local aspiration and emergency-airway protocol and document postoperative respiratory observation, glucose management and the GLP-1 restart plan [27,28].

GLYCAEMIC AND METABOLIC MANAGEMENT

GLP-1RAs lower glucose through glucose-dependent mechanisms and have a low risk of hypoglycaemia when used alone [1]. Hypoglycaemia becomes more likely when treatment is combined with insulin or a sulfonylurea, especially during prolonged fasting or reduced postoperative intake [1,28]. The perioperative medication plan must therefore consider the entire diabetes regimen rather than focusing only on the GLP-1RA [28].

If therapy is continued, capillary glucose should be checked according to diabetes status, procedural duration and local protocol [28]. If therapy is withheld, hyperglycaemia may occur, but the magnitude depends on baseline control, other medicines and the length of interruption [8,28].

Persistent hyperglycaemia should be treated using the institution's perioperative diabetes pathway; routine insulin 'bridging' for every omitted GLP-1RA dose is not justified [8,28].

Patients receiving GLP-1 therapy for obesity without diabetes do not require glucose-lowering replacement when a dose is withheld [27]. Interruption may nevertheless compromise weight-management treatment [13,27]. For patients with diabetes, consultation with the prescribing or diabetes team is appropriate when treatment will be interrupted beyond its usual schedule or when glycated haemoglobin and home glucose indicate limited reserve [8,28].

Dehydration from vomiting or poor intake should be corrected, and persistent abdominal pain should prompt evaluation for pancreatitis, biliary disease, obstruction or another acute process [2,28]. The medicine should not be restarted simply because surgery has ended when the patient remains unable to tolerate oral intake [28].

On the day of surgery, glucose should be measured in patients with diabetes and repeated during prolonged procedures, insulin treatment, major physiological stress or unexpected delay [28]. The target and treatment thresholds should follow the institution's diabetes protocol [28]. If the GLP-1RA is continued but oral intake is reduced, doses of insulin or sulfonylurea may still need adjustment because the combined regimen—not the GLP-1RA alone—determines hypoglycaemia risk [1,28].

Vomiting, reduced intake and bowel preparation can cause volume depletion and renal dysfunction [27]. Fluid status, electrolytes and ketones should be assessed when clinically indicated, particularly when the patient also receives an SGLT2 inhibitor or has poor diabetes control [27]. Although SGLT2 inhibitor management is outside the scope of this booklet, the medicine must be identified separately because its perioperative ketoacidosis risk requires a different pathway [27].

POSTOPERATIVE MANAGEMENT AND RESTARTING THERAPY

When postoperative nausea, vomiting, abdominal distension or delayed bowel function occurs, a GLP-1RA user requires the same structured differential diagnosis as any other patient, including opioid effect, postoperative nausea and vomiting, ileus, obstruction, surgical complication, infection and metabolic disturbance [2,28]. Attribution to the medicine alone may delay recognition of a complication [2,28].

SPAQI recommends restarting GLP-1RA therapy in hospital when the patient has resumed the usual diet and restarting after discharge when the usual diet is tolerated [28]. This avoids compounding nausea or reduced intake [28]. After a prolonged interruption, re-escalation from a lower dose may be required depending on the agent and duration of interruption; product instructions and the prescribing clinician should guide the exact regimen [2,28].

The discharge summary should state whether the medicine was continued or withheld, the date of the last dose, when and at what dose it should be restarted, and any glucose-monitoring instructions [28]. Responsibility for follow-up should be clear, especially when surgery has altered nutrition or gastrointestinal anatomy [28].

When the postoperative diet differs substantially from baseline, as after gastrointestinal or bariatric surgery, restart should be coordinated with the surgical and prescribing teams rather

than tied to a fixed postoperative day [2,28]. Resumption should be delayed while significant nausea, vomiting, ileus or inability to tolerate oral intake persists [28].

Practical postoperative restart

There is no universal postoperative hour or day for restarting a GLP-1-based medicine. After uncomplicated non-gastrointestinal surgery, a patient who is haemodynamically stable, has resumed and tolerated the usual diet, and has no significant nausea, vomiting, abdominal distension or ileus can generally resume treatment at the next scheduled dose under the selected regimen [28]. If gastrointestinal anatomy or intake has changed, or therapy has been interrupted for a prolonged period, restart should be coordinated with the surgical and prescribing teams and the product-specific missed-dose or re-escalation instructions should be followed [2,28].

For patients with diabetes, capillary glucose and the rest of the diabetes regimen should be reviewed before discharge. If GLP-1 therapy cannot yet be restarted, hyperglycaemia should be managed using the local perioperative diabetes pathway rather than by automatic insulin “bridging” for every missed GLP-1 dose [8,28].

Oral postoperative analgesics and other medicines

Delayed gastric emptying can alter the rate, rather than necessarily the total extent, of absorption of some oral medicines. A systematic review found that GLP-1 receptor agonists commonly delayed time to maximum concentration and sometimes reduced peak concentration, but did not produce clinically important changes in overall exposure for most tested oral medicines; routine dose adjustment was generally not required [44].

This is directly relevant to postoperative analgesia. The South African Mounjaro professional information reports that after a single 5 mg tirzepatide dose, paracetamol peak concentration fell by 50% and median time to peak was delayed by 1 hour, while total exposure was unchanged and no paracetamol dose adjustment was required; the effect was no longer seen after repeated weekly dosing [41]. The Trulicity professional information similarly states that dulaglutide did not alter absorption of tested oral medicines, including paracetamol, to a clinically relevant degree [40].

A routine postoperative oral analgesic prescription therefore should not be increased solely because the patient uses a GLP-1-based medicine [40,41,44]. However, when rapid analgesic onset is important or the patient has vomiting, ileus or unreliable oral intake, use multimodal non-oral analgesia initially and transition to oral treatment once intake and absorption are clinically reliable. Extra caution is appropriate for oral medicines in which delayed onset or a narrow therapeutic index would be clinically important [41,44].

SPECIAL SITUATIONS AND CONTROVERSIES

Obesity without diabetes

In patients treated for obesity, brief interruption does not itself require glucose-lowering replacement unless diabetes is also present [27]. Clinicians should ask neutrally and explicitly about medicines used for weight management [13]. The procedural decision should be based on gastric and airway risk, not on an assumption that obesity alone implies non-adherence or a full stomach [7,27].

Diabetes and suspected gastroparesis

Diabetes and GLP-1 therapy can both influence gastric emptying [2,5]. A patient with longstanding diabetes, autonomic symptoms, early satiety, recurrent vomiting or prior evidence of retained food may have underlying gastroparesis independent of the medicine [2,5]. In such patients, withholding one dose may not normalise gastric function, and the anaesthetic plan should reflect the chronic disorder [2,7].

Endoscopy and procedural sedation

Upper endoscopy directly encounters retained gastric material and may be incomplete or aborted when food is present [5]. The AGA supports proceeding after standard fasting in asymptomatic patients and considers a liquid diet on the preceding day a practical alternative to universal drug cessation [26]. If substantial contents are found, the endoscopist and anaesthetist must decide whether to proceed with airway protection, limit the examination or postpone according to the indication and airway risk [26].

Nasser and colleagues observed less food retention when upper endoscopy was combined with same-day colonoscopy than when upper endoscopy was performed alone [24]. The liquid diet and catharsis used for colonoscopy are plausible explanations, but this observation does not replace formal aspiration-risk assessment [24]. Sedation depth should remain proportionate, with consideration of airway protection when the procedure is prolonged, the patient is prone or gastric contents are suspected [26,27].

Pregnancy, children and altered gastrointestinal anatomy

Evidence supporting GLP-1-specific perioperative recommendations in children and pregnancy is limited [5,8]. These patients should be managed with relevant specialist guidance rather than by uncritical extrapolation of adult elective pathways [5,8]. Gastric ultrasound may be useful, but interpretation must account for the population and clinical context [3,4].

Previous bariatric or gastric surgery changes anatomy and may make both gastric emptying and ultrasound interpretation less predictable [3,4]. The planned procedure, symptoms and surgical anatomy should be reviewed with the relevant specialist [3,4].

Research priorities

Priority questions include the true incidence of perioperative aspiration, the predictive value of gastrointestinal symptoms, the effect of escalation and dose, and whether drug class or indication modifies risk [5,6]. Prospective studies should use standard definitions of fasting, residual gastric content, regurgitation and aspiration [5,6]. Trials are also needed to compare medication withholding, liquid-diet strategies, gastric ultrasound and airway modifications [5,6].

A validated risk score is not yet available [5,6]. Until stronger evidence emerges, local pathways should be audited for cancellations, ultrasound findings, airway changes, glucose outcomes and aspiration events [7,13].

PRACTICAL PERIOPERATIVE ALGORITHM AND CASE RESOLUTION

This section translates the current evidence and professional guidance into a practical perioperative decision pathway. The algorithm first distinguishes emergency or time-critical procedures from elective care, then integrates treatment phase, gastrointestinal symptoms, comorbidities, dietary preparation and procedural risk to guide whether the patient should proceed routinely, undergo additional risk mitigation or have an elective procedure postponed [7,13,27,28]. It also emphasises glucose monitoring, postoperative oral intake and a documented medication-restart plan.

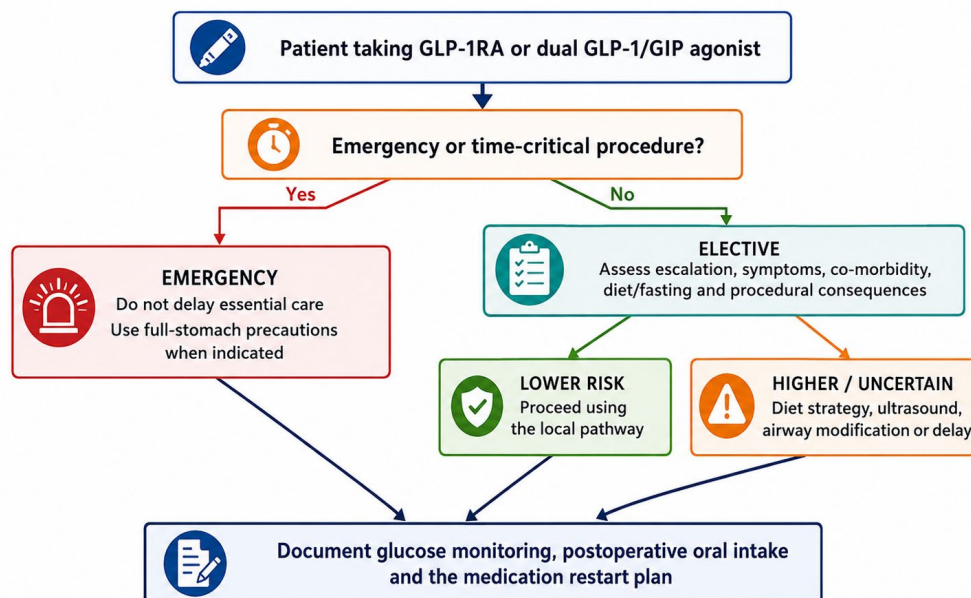


Diagram 5. Risk-based perioperative management algorithm. Original synthesis of current guidance [7,13,27,28].

The opening case is not automatically cancelled [7]. Before assigning risk, the team must confirm how long she has been receiving semaglutide, whether the dose was recently increased, and whether another condition or medicine could delay gastric emptying [7]. The absence of gastrointestinal symptoms is reassuring but does not exclude retained gastric contents [13]. Under the multi-society or UK approach, continuation is generally acceptable after individual risk assessment and completion of the applicable fasting or diet requirements [7,27]. Under the Australian and New Zealand pathway, a 10-hour fast without the preceding 24-hour clear-fluid diet would prompt a risk-mitigation strategy [13]. Under SPAQI, a 10-hour fast from solids would not meet its recommended 24-hour solid-food interval [28].

A defensible plan depends on the locally adopted guidance and the information obtained during assessment [7,13,27,28]. If no additional high-risk feature is identified, proceeding may be reasonable under a risk-based local pathway [7,27]. If risk remains higher or uncertain, gastric ultrasound can be used when available and interpretable [3,4,7,13]. A clearly empty antrum supports proceeding, whereas solids support full-stomach management or postponement; an inconclusive scan should not be interpreted as an empty stomach [3,4,7,13].

PRACTICAL TAKE-HOME POINTS

Ask specifically about the medicine and treatment phase. Do not assume that standard fasting guarantees an empty stomach. Distinguish residual gastric content from proven aspiration. Continue or withhold according to an explicit local pathway. Use ultrasound selectively and interpret inconclusive scans cautiously. Do not delay emergency care unnecessarily. Document glucose monitoring and the restart plan.

CONCLUSION

GLP-1 receptor agonists and dual GIP/GLP-1 receptor agonists have important metabolic benefits and are increasingly encountered before anaesthesia and sedation [1,2]. They can delay gastric emptying, and ultrasound and endoscopy studies show a greater frequency of residual gastric contents among exposed patients [5,6]. Case reports demonstrate that regurgitation and aspiration can occur despite conventional fasting [14-16]. However, large comparative studies and meta-analysis have not established a clear increase in clinically detected aspiration, and the certainty of evidence remains low [6,25].

Current guidance therefore favours structured risk assessment rather than a single universal rule [7,13,27,28]. Treatment phase, dose escalation, gastrointestinal symptoms, comorbid gastric dysmotility, diet preparation, procedural urgency and airway consequences should be considered together [7]. Gastric ultrasound can refine decisions when expertise is available [3,4]. Emergency procedures should proceed with proportionate aspiration precautions, while elective postponement should be reserved for situations in which risk is expected to improve and cannot be mitigated safely [7,8,13,27,28].

The safest practice is a locally agreed, multidisciplinary pathway that gives patients clear instructions before the day of surgery and documents medication continuation or interruption, fasting or liquid-diet requirements, airway planning, glucose monitoring and postoperative resumption [7,13,27,28].

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